ORIGINAL FILE

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Redevelopment Of Spectrum	)	ET Docket No. 92-9
To Encourage Innovation	)	
In The Use Of New	)	
Telecommunications Technologies	)	

TO: The Commission

RECEIVED
JUN - 8 1992
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

COMMENTS OF AMERICAN PERSONAL COMMUNICATIONS

Jonathan D. Blake
Kurt A. Wimmer
Ellen K. Snyder

COVINGTON & BURLING
1201 Pennsylvania Avenue, N.W.
Post Office Box 7566
Washington, D.C. 20044
(202) 662-6000

Attorneys for American
Personal Communications

Mr. J. Barclay Jones,
Vice President for
Engineering

AMERICAN PERSONAL
COMMUNICATIONS
1025 Connecticut Ave., N.W.
Washington, D.C. 20036

June 8, 1992

No. of Copies rec'd 0+4
List A B C D E

SUMMARY

American Personal Communications ("APC") supports the Commission's initiative to encourage the development of innovative new telecommunications technologies by making much-needed spectrum available for the initiation of new services. The first technology that should benefit from this approach is personal communications services ("PCS").

This initiative holds the promise for a "win-win" scenario for PCS licensees and existing users of the 2 GHz band. APC has located more than 110 MHz of fallow spectrum in the 1.85-1.99 GHz band, on average, in the largest cities in the United States. APC has proposed and proved methods by which PCS licensees can share spectrum with microwave users and has proposed interference criteria that will fully and effectively protect incumbent users. These developments will permit PCS and microwave users to share the 1.85-1.99 GHz band without injuring the legitimate interests of either group.

Based on its research, APC believes that only some existing users will need to relocate to accommodate PCS. Any relocation that is necessary should be accomplished in a manner that effectively protects the legitimate needs of incumbent users. Incumbent users should be relocated to accommodate PCS (1) only when asked to do so by a PCS licensee; (2) only upon identification of reliable alternative frequencies; and (3) only upon reimbursement of all expenses of relocation by the PCS licensee.

Incumbent users that must relocate can be accommodated with reliable systems at higher frequency bands. Utilities and other microwave users recognize the reliability of higher bands and are using them right now. For example:

- The Potomac Electric Power Company in Washington, D.C. operates 26 microwave paths in the 6 GHz band and only three at 2 GHz.
- Duke Power Company uses the 6 GHz band for 68 percent of its paths in South Carolina.
- The Tennessee Valley Authority uses the 8 GHz band for 70 percent of its microwave paths.
- The Bonneville Power Administration operates 86 percent of its microwave paths at 8 GHz.
- The Federal Aviation Administration operates 94 percent of its paths at 8 GHz.
- The South Carolina Public Service Authority operates 15 paths in the 6 GHz band, with an average length of 11.8 miles and with one path more than 23 miles in length.

Studies by the Office of Engineering the Technology and Comsearch demonstrate that sufficient spectrum will be available to accommodate relocated 2 GHz incumbents (and, of course, APC's studies show that the vast majority of incumbents will never be asked to relocate at all).

APC also supports the Commission's dialogue with the Department of Commerce concerning the use of the 1.71-1.85 GHz band as a relocation ground for displaced incumbents; the use of tax certificates for incumbents that relocate; and the use of bands above 10 GHz for short microwave hops.

CONTENTS

RECEIVED
JUN - 8 1992
FEDERAL COMMUNICATIONS COMMISSION
OFFICE OF THE SECRETARY

Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
Redevelopment of Spectrum to Encourage Innovation in the Use of New Telecommunications Technologies	)	ET Docket 92-9

TO: The Commission

COMMENTS OF AMERICAN PERSONAL COMMUNICATIONS

American Personal Communications ("APC")[1/] generally supports the Commission's proposal in the Notice of Proposed Rule Making (the "Notice") in the above-referenced docket to designate the 1.85-1.99, 2.11-2.15, and 2.16-2.2 GHz bands (the "2 GHz band") for new technologies.[2/]

The United States, like many developed nations, faces a severe spectrum shortage. Our industrial competitors in Europe and the Far East have implemented personal communications services ("PCS") in the 2 GHz band and have begun establishing spectrum reserves for new technologies (with Japan leading with its plans for a 580 MHz reserve). Our competitors understand that maintaining sufficient

---

1/ American PCS, L.P., d/b/a American Personal Communications, a partnership of American Personal Communications, Inc. and The Washington Post Company.

2/ APC also endorses the Comments of Telocator, the Personal Communications Industry Association. Telocator has among its members more than 80 PCS proponents, as well as numerous 2 GHz microwave incumbents. Telocator's comments thus present especially constructive proposals for balancing the needs of PCS licensees and incumbent users.

spectrum to enable domestic implementation of new technologies is a necessary predicate to success in the world marketplace for their own communications industries. This docket reflects a parallel recognition and is the type of pro-growth regulatory measure that should be fostered in the current national and international environment.[3/]

The first new technology that should benefit from a spectrum reserve is PCS.[4/] PCS promises to serve 60 million Americans by the end of this decade and will be a $195 billion international industry by the end of the next decade.[5/] PCS will create jobs for American workers and contribute favorably

---

[3/] See Letter from President George Bush to Chairman Alfred C. Sikes (January 28, 1992) (asking Commission to "accelerate action on initiatives that will . . . promote economic growth"); see also Concerns About U.S. Trade Fueling Technology Competitiveness Bills, Communications Daily, May 29, 1992, at 4-5 (describing bipartisan congressional support for measures designed to "help U.S. maintain leading edge in critical technologies . . . [the] idea is to create jobs through government investment in emerging technologies").

[4/] By "PCS," APC refers to the common carrier services that form the basis for its definition of PCS. See APC, Petition for Rule Making (Gen. Docket 90-314, filed May 3, 1991) (Attachment A, proposed rules defining PCS). References in these Comments to "PCS" refer to common carrier PCS. Other forms of PCS -- such as PCS data transmission and unlicensed private PCS -- also may warrant use of spectrum in the 2 GHz band, and APC's spectrum allocation proposals reflect their potential. See infra p. 6 & n.13.

[5/] See En Banc Hearing Statement of Clifford Bean, A.D. Little & Co. (Gen. Docket 90-314, Nov. 21, 1991); see also Industrial Communications, May 22, 1992, at 5-6 (reporting Delphi study by A.D. Little predicting that PCS will have 60 million subscribers in the United States within 10 years and that 65 percent of American households will subscribe to PCS). Motorola, Inc. estimates that PCS will be a $195 billion business by the year 2010.

to our balance of trade. It is expected to save consumers as much as $5 billion per year by providing price competition to other telecommunications services.[6/]

APC and others have recognized that this spectacular potential cannot be realized if the introduction of PCS is delayed by objections of incumbent point-to-point private operational fixed microwave users in the 2 GHz band.[7/] From the outset, APC has focused on protecting incumbent users of the 2 GHz band from interference or arbitrary displacement. APC has deployed a commercial-quality PCS system serving more than 200 subscribers in the Washington, D.C./Baltimore, Maryland area and has worked closely with utilities in that area to ensure that no interference to those utilities is caused by APC's operations. APC has performed an authoritative research project demonstrating that sufficient spectrum currently is available for inauguration of PCS in the top 11 markets in the United States. See APC, Frequency Agile Sharing Technology Report on Spectrum Sharing (filed July

---

[6/] See Letter from Chairman Alfred C. Sikes to President George Bush at 14 (April 28, 1992) (describing "estimated economic impact" of PCS).

[7/] Reliable analyses place the economic cost of delaying the implementation of cellular service at $86 billion. A recent study by the National Economic Research Associates found that delays in authorizing and licensing cellular telecommunications cost the U.S. economy $86 billion. See En Banc Hearing Statement of Dr. Charles L. Jackson at 4-5 (Gen. Docket 90-314, Dec. 5, 1991); see also Communications Daily, November 18, 1991, at 5.

1991) (the "FAST Report").[8/] APC also has developed a now-proven technology by which PCS licensees may share the 1.85-1.99 GHz band with incumbent microwave users without causing interference to them.[9/]

By "sharing," we mean the use of the 1.85-1.99 GHz band for both PCS and point-to-point microwave use, utilizing avoidance techniques under which PCS signals would never be transmitted on frequencies that could cause interference to microwave users.[10/] PCS can be implemented in the substantial amount of fallow spectrum in the 1.85-1.99 GHz band without wholesale displacement of, or causing any harmful interference to, incumbent microwave users. The Commission's efforts in this docket provide the potential for a classic "win-win" scenario. Existing users of this band can continue their operations, while PCS licensees -- subject, of course, to effective interference protection rules -- can introduce PCS to the American public.

[8/] APC requests that the FAST Report, which has been filed in connection with APC's experimental authorization, its Petition for Rule Making, and General Docket 90-314, be incorporated by reference in this docket as well.

[9/] See APC, Supplement to Petition for Rule Making at 7-11 (filed May 4, 1992) ("APC Rule Making Supplement"); APC, Seventh Quarterly Progress Report, FCC File No. 2056-EX-ML-91 (filed April 28, 1992).

[10/] This approach is distinct from other "overlay" approaches which "share" spectrum by using the same frequencies for PCS and microwave use. Under APC's "avoidance" approach, frequencies used by incumbent microwave licensees and those needed for interference protection would not be available for PCS use.

Incumbent microwave users -- utilities, railroads, and the petroleum industry -- put the 2 GHz band to important uses that must be protected. APC has proposed indefinite incumbency for existing microwave users in the 1.85-1.99 GHz band[11/] based on strict and effective interference protection criteria and a negotiated relocation procedure under which incumbents would be required to vacate the 2 GHz band only if (1) asked to do so by a PCS licensee; (2) reliable frequencies are available in other bands; and (3) PCS licensees bear the full cost of relocation.[12/]

[11/] APC has not proposed a PCS allocation in the 2.11-2.15 and 2.16-2.2 GHz bands. It is conceivable that entirely different new technologies (including satellite-based services) could be authorized by the Commission in these bands and in that case the indefinite incumbency approach proposed by APC could be unworkable. In those bands, the Commission's 10- to 15-year sunset on co-primary status, or some other arrangement, may be appropriate.

[12/] In hearings before the Senate Communications Subcommittee on June 3, 1992, certain Senators appeared troubled by the concept of negotiations between microwave users and PCS licensees. They perhaps did not appreciate that such a proposal, depending on how it is structured, could allow incumbent microwave operators to obtain more than costs; they focused on the probability that private microwave users might receive less than costs. The simplest way to deal with the issue -- and the one most consistent with the principle that no one is to obtain a property right in spectrum -- is to assure full-cost reimbursement, no more, no less. Nor would such a standard embroil the Commission in the task of resolving numerous disputes. The standard is straightforward under principles determined by the Commission in Docket 90-54, and resolving perhaps a few cases would establish clear precedent that would guide future negotiations and avoid the need for the Commission to resolve numerous disputes in the future. See APC Rule Making Supplement at 11-16, Proposed Rule Section 22.2022.

Common carrier PCS, which APC believes to be the most broadly demanded set of services to be accommodated in this band, is not, however, the only one. Wireless computer networks and other private services might use these frequencies, and they pose special concerns for spectrum usage. These services may need clear access to spectrum and may have more difficulty engineering around incumbents. If such services are unlicensed, there would be no "licensee" to pay the costs of relocating existing users (although relocation costs could be financed by pooling royalties on equipment sales, by authorizing equipment manufacturers to pay such costs, or by other methods).[13/] However the proponents of these technologies propose to resolve these issues and however the Commission addresses them (and APC takes no position on these issues), the Commission should not hold up allocation of spectrum for, and licensing of, common carrier PCS along the lines proposed by APC (and Telocator) which involve no injury to existing users.

[13/] APC has proposed a spectrum allocation within the 1.85-1.99 GHz band that would situate these users in the most lightly used center portion of this band to minimize relocation. See APC Rule Making Supplement at 20-22. The vast majority of microwave users utilize an 80 MHz transmit-receive separation. The frequencies between 1905 and 1935 MHz are used only for "unpaired" systems using one-way transmission. See 47 C.F.R. § 94.65(b)(i) (1991). On the average, each paired 10 MHz microwave channel is used 11 times per market, while unpaired microwave channels tend to be used only five times per market on average. Additionally, there are no interstitial channels in the center of the band, which reduces crowding in those frequencies. See APC Rule Making Supplement at 21-22 n.24.

I. THE 2 GHZ BAND IS THE APPROPRIATE LOCATION FOR THE NEW TECHNOLOGIES SPECTRUM RESERVE.

APC has proposed the allocation of the 140 MHz available in the 1.85-1.99 GHz band for common carrier and other varieties of PCS.[14/] Given that incumbent microwave licensees may operate in this band for some time and public demand for PCS will be great, this allocation will be necessary for PCS to be implemented successfully.[15/] The remaining 80 MHz in the 2 GHz band can be used to implement other new technologies vying for spectrum before the Commission, as well as emerging services that are yet to be proposed.[16/]

As the Commission has noted, PCS services should be located in spectrum bands that are (a) technically suitable for portable and mobile communications under the current or near-term state of the art; (b) permissible for such uses

---

[14/] APC's proposal for the 1.85-1.99 GHz band would permit allocation of 100 MHz for common carrier PCS and 40 MHz for PCS data transmission, private carrier PCS, and other unlicensed PCS applications. See APC Rule Making Supplement at 20-22. The remarkable diversity represented by the applicants for PCS pioneer preferences demonstrates that numerous specific applications for PCS exists -- from one-way broadcast data transmission to advanced paging services. Certain of these specific applications could be candidates for authorization in the subbands above 2.11 GHz.

[15/] See APC, Further Supplement to Petition for Rule Making (Gen. Docket 90-314, filed May 21, 1992).

[16/] APC would recommend, however, that consideration of the band from 2.16-2.2 GHz be modified to specify the 2.162-2.2 GHz band to more fully accommodate MDS Channel 2 in the top 50 markets). APC supports the comments of the Wireless Cable Association International, Inc. in this regard.

under international treaties and sufficiently consistent with international allocations to permit American consumers and American service and manufacturing industries to benefit from international economies of scale; and (c) currently occupied by users that can share spectrum with new technologies and relocate to other suitable frequency bands if necessary.[17/] The 2 GHz band meets each criterion.

First, the current state of the art permits mobile and portable communications in the 2 GHz band. U.S. equipment manufacturers, such as Motorola and Qualcomm, are producing 2 GHz PCS equipment now.[18/] The pan-European standard for digital European cordless telecommunications ("DECT") has been finalized, and manufacturers are expected to begin producing equipment to that standard immediately. In addition, the DCS-1800 standard, which will be used for PCS in the United Kingdom in mid-1993 and which may be used for a digital cellular/PCS system in Germany, has been finalized. Equipment

---

[17/] See Notice at 5-6. The Commission also noted that sufficient contiguous spectrum must be available in any frequency band considered for new technologies, a conclusion with which APC agrees. In APC's May 3, 1991 Petition for Rule Making, for example, APC pointed out that the few megahertz available in the 900 MHz band for PCS would be plainly insufficient. For that reason, among others, APC proposed the 1.85-1.99 GHz band as an allocation for PCS.

[18/] APC has been performing PCS experiments in the 1.85-1.99 GHz band for more than one year. APC will begin implementation of a test PCS system at 1.85-1.99 GHz using Qualcomm spread-spectrum code division multiple access equipment (relatively narrow band) in September 1992 (and perhaps earlier) and also will test a Motorola time division multiple access PCS system in the last half of 1992.

for higher frequency bands, in contrast, would be years away and may never be suitable for many new technologies.[19/]

Second, the 2 GHz band is available for allocations to new mobile and portable technologies under international law. At the 1992 World Administrative Radio Conference, mobile allocations for all three regions of the world were brought into conformity in the 1.7-2.69 GHz band. Additionally, the Conference created an allocation for terrestrial future public land mobile telecommunications at 1.885-2.025 GHz and 2.11-2.2 GHz. Other nations are following this lead. The European Community has issued a Directive requiring each member state to allocate spectrum for PCS in the 2 GHz band for implementation of PCS service during 1992.[20/] Each member state -- Belgium, Denmark, France,

---

[19/] The difficulty in producing mobile and portable equipment at higher frequencies is based on signal propagation characteristics -- propagation losses increase at higher frequencies. New technologies rely on low power levels so that handsets can be very small, and use base stations that are relatively close together (APC estimates that 250 cells will be required to bring PCS to Washington/Baltimore, for example). If higher frequencies are used, additional power would be required to overcome increased propagation losses. Either handsets will become much larger -- defeating the purpose of new portable services -- or capital expenditures will increase drastically to reflect the thousands of additional base stations that would be required to configure a system -- defeating the purpose of bring affordable portable services to the consumer.

[20/] Council Directive 91/287/EEC (June 3, 1991). Specifically, the Directive required each of its 12 member states to take concrete action to implement PCS:

> Member States shall . . . designate the frequency band 1,880-1,900 MHz for digital European cordless telecommunications (DECT) by 1 January 1992. . . .

Germany, Greece, Ireland, Italy, Luxembourg, the Netherlands, Portugal, Spain, and the United Kingdom -- has issued national implementation measures pursuant to the Directive. Even preceding this action by the European Community, the United Kingdom in 1989 allocated 170 MHz to PCS in the 1.8 GHz band. Similarly, Germany will license during 1992 a digital cellular/PCS system on frequencies in the 1.8 GHz band. Japan has announced plans to authorize PCS in the 1.9 GHz band. Hong Kong, Singapore and Thailand either have implemented or are considering PCS allocations at 1.85-1.99 GHz. An allocation for new technologies in the 2 GHz band would permit American consumers to benefit from international economies of scale; an allocation that is inconsistent with this band would mean more expensive equipment for United States consumers and handicap American service providers and equipment manufacturers seeking to compete in the world marketplace.

Third, the 2 GHz band currently is allocated exclusively to a point-to-point microwave service that generally can operate in different frequency bands if necessary. Although clear spectrum for new technologies

---

> In accordance with the CEPT Recommendation, DECT shall have priority over other services in the same band, and be protected in the designated band. . . . Member States shall bring into force the laws, regulations and administrative provisions necessary to comply with this Directive by 31 December 1991.

The Directive also contemplates that the 1991 allocation would be an initial allocation only, and that additional frequencies contiguous to the initial allocation may be required.

would, in the abstract, be ideal, a sufficient amount of clear spectrum does not exist in any frequency band that is suitable for PCS and consistent with international mobile allocations. In the absence of clear spectrum, the next best option is an allocation for new technologies in a frequency band in which (a) sufficient vacant spectrum exists to begin operation without displacing existing users; (b) a manageable number of incumbent users exists in each community for purposes of negotiation if relocation does become necessary; and (c) incumbent users have alternative frequency bands or media to which they can migrate if necessary. As APC has demonstrated, enough spectrum exists for PCS to be inaugurated without harmful relocation of existing users, and a finite number of incumbents exists in each community with which a PCS licensee could negotiate if relocation becomes necessary for some of

them.[21/] The crux of the issue is whether sufficient relocation frequencies exist.

It is clear that utilities and other point-to-point microwave users believe that frequencies above 3 GHz are sufficiently reliable for point-to-point use.[22/] In Washington, D.C., for example, Potomac Electric Power Company has 32 microwave paths -- 26 of those are in the 6 GHz band, and only three are in the 2 GHz band. Duke Power Company uses the 6 GHz band for 68 percent of its microwave paths within South Carolina. The Tennessee Valley Authority uses the 8 GHz band for 70 percent of its microwave paths. The Bonneville Power Administration operates 86 percent of its paths at 8 GHz. The Federal Aviation Administration, which controls air

---

[21/] In contrast, new technologies cannot feasibly be located in bands in which point-to-multipoint services already are authorized and operating. For this reason, one particularly inappropriate location for new technologies would be the 2.5-2.69 GHz band, which is allocated to multichannel multipoint distribution systems ("MMDS" or "wireless cable"). PCS licensees could not "engineer around" MMDS licensees because those licensees operate on a point-to-multipoint basis, broadly serving entire communities. Accordingly, band clearing would be necessary. Relocation of an existing wireless cable system would require replacement of subscriber equipment in potentially thousands of homes. More than 100 wireless cable systems currently serve nearly 500,000 subscribers in the United States. As a practical matter, relocating MMDS systems to a different frequency band would fatally undermine consumer confidence in MMDS and virtually eliminate its potential to compete against conventional cable television.

[22/] See, e.g., Comments of Centerior Energy Corporation, Cleveland Electric Illuminating Company and Toledo Edison Company at 3 (ET Docket 92-9, filed May 28, 1992) ("characteristics of the 3 and 6 GHz bands make them technically acceptable alternatives").

traffic functions that are absolutely critical to public safety in the United States, operates 94 percent of its microwave paths at 8 GHz. The South Carolina Public Service Authority operates 15 microwave paths in the 6 GHz band in South Carolina, with an average path length of 11.8 miles and with one path more than 23 miles in length.[23/]

Sufficient reliable spectrum in these upper bands exists to accommodate a significant number of new microwave users, as the Office of Engineering and Technology report demonstrates. Even in Houston, Texas, acknowledged as the most crowded microwave market, Comsearch has published a study relocating 103 of 107 existing 2 GHz microwave paths to appropriate 6 GHz frequencies -- and this study did not consider relocating 2 GHz licensees to the 6 GHz common carrier frequencies, as would be possible under the Commission's "blanket waiver" proposal and certain proposals of incumbent groups.[24/] Channelization and other technical rules may need to be modified prior to relocation of any

---

[23/] The 23.4 mile 6 GHz microwave facility operated by the South Carolina Public Service Authority is a digital microwave transmit-receive path licensed as of January 19, 1990 (Stations WAN-217 and WAN-218).

[24/] See Berry, Downs & Gupta, Exploring Alternate Bands for 1.9 GHz Systems: A Frequency Coordination Case Study (Reston, Va.: Comsearch, Jan. 20, 1992) (Attachment A). Had Comsearch considered the availability of the common carrier bands, almost certainly all 107 licensees could have been relocated to the 6 GHz band. Of course, APC's research has shown that nowhere near all licensees would be required to relocate in Houston or any other market because of the amount of available spectrum in the top 11 markets in the United States. See FAST Report.

incumbents, but this should not be difficult and the Commission already has taken the appropriate first steps in this regard.[25/] APC continues to support these efforts.[26/]

II. INCUMBENT USERS WILL BE PROTECTED.

This docket has generated an intense amount of controversy, even before the filing of the first formal comment. This controversy arises because of a perception that private, point-to-point microwave users in the 1.85-1.99 GHz band -- utilities, railroads and the petroleum industry -- would be harmed by the introduction of new technologies into those bands. This perception is mistaken.

APC has done exhaustive research into the current use of spectrum in the 1.85-1.99 GHz band and into methods by which frequencies in that band can be shared by incumbent users and PCS. The bottom line is that there is a significant amount of vacant spectrum lying fallow in the 1.85-1.99 GHz band. APC's analysis of every existing or proposed microwave path in each of the top 11 markets in the United States demonstrates that between 50 and 100 MHz is available for inauguration of PCS in each city. Specifically:

[25/] See Public Notice 22934 (May 1, 1992) (accepting comments on UTC Petition for Rule Making); Public Notice DA-92-705 (June 2, 1992) (accepting comments on Alcatel Petition for Rule Making).

[26/] See Statement of APC on UTC Petition for Rule Making (RM 7981).

Market	Average Available Spectrum
New York	106.1 MHz
Los Angeles	93.4 MHz
Chicago	100.4 MHz
Washington, D.C.	128.5 MHz
Philadelphia	117.2 MHz
Detroit	122.9 MHz
Boston	127.1 MHz
Dallas	107.1 MHz
Houston	100.4 MHz
Miami	112.0 MHz
San Francisco	100.4 MHz
Average	110.5 MHz

A great deal more spectrum is available in smaller communities and rural areas.[27/] This spectrum can be used for PCS without harming incumbent users.[28/]

[27/] In Seattle, Washington, for example, from 50 to 100 MHz of spectrum is available at 100 percent of locations and from 100-140 MHz of spectrum is available in 89.6 of all locations. In Columbia, South Carolina, 50 to 100 MHz of spectrum is available in 99.7 percent of locations and from 100-140 MHz of spectrum is available in 94.2 percent of all locations. In Charleston, South Carolina, 50 to 100 MHz of spectrum is available in 98.8 percent of locations and from 100-140 MHz of spectrum is available in 81.9 percent of locations. In Honolulu, 50 to 100 MHz of spectrum is available in 100 percent of locations and from 100-140 MHz of spectrum is available in 94.6 percent of all locations.

[28/] APC has proposed sharing criteria that provide interference protection to incumbent users as effectively as TIA Bulletin 10-E provides for their current sharing of the 2 GHz band with other microwave users. See APC Rule Making Supplement at 17-20, Attachment A at A-8 to A-10 (proposed Section 22.2003) & Attachment B (sample calculation). Regardless of whether the specific sharing criteria proposed by APC or some variant on APC's approach is adopted in the PCS rule making docket, there can be no question that the Commission will not introduce a new service into frequencies occupied by existing services without providing for effective interference protection to incumbents.

APC fully supports a system under which (a) no incumbent licensee would be required to relocate unless asked to do so by a PCS licensee; (b) no incumbent licensee could be required to relocate unless reliable replacement frequencies are available and (c) no incumbent licensee could be asked to move unless a PCS licensee has committed to pay the full costs of relocating that incumbent licensee.

APC has proposed a specific set of procedures on which such a system could be based.[29/] Under this system, which is based on the same cost reimbursement and procedural protections as the system proposed by the Utilities Telecommunications Council ("UTC") prior to their comments in this docket,[30/] the legitimate needs of incumbent users will be fully and completely protected.[31/] In addition,

---

[29/] See APC Rule Making Supplement at 11-16 & Attachment A at A-26 to A-28 (proposed Section 22.2022).

[30/] Both APC's proposal and UTC's proposal are based on the cost reimbursement categories set out by the Commission in Amendment of Parts 21, 43, 74, 78 & 94 of the Commission's Rules Governing Use of the Frequencies in the 2.1 and 2.5 GHz Bands, Second Report & Order, 6 F.C.C. Rcd. 6792 (1991). See En Banc Hearing Statement of J. Barclay Jones, Vice President for Engineering, APC, at 6 & n.3 (Docket 90-314, Nov. 21, 1991); see also UTC, Recommended FCC Action Plan for Accommodating New Technologies (filed ex parte in this docket, April 1992) (suggesting "co-primary" status for incumbents).

[31/] APC does not support, however, an unrestrained "marketplace" system of bartering for spectrum, under which incumbent users would be free to exploit their government-granted rights to spectrum and extract monopoly rents from PCS licensees in exchange for relocating to a different frequency band. Such an approach would reward the delaying of new technologies, at significant costs to the economy and to American consumers, and would permit incumbents to obtain windfall profits by exploiting a public resource.

investment in more spectrally efficient transmission systems will be encouraged.[32/] APC is confident that negotiations between PCS licensees and incumbent users will fruitfully resolve the great majority of conflicts that exist with Commission intervention required only rarely, based on its experience in working with utilities in the Washington/Baltimore area.[33/]

PCS proponents have no interest whatsoever in injuring incumbent users. PCS proponents are interested in providing service to the public as quickly as possible, and conflicts with incumbent users inevitably would delay their ability to do so.[34/] In recognition of that fact, Telocator

---

[32/] An incumbent that relocates would receive a payment from a PCS licensee in the amount required to replace the 2 GHz facilities with comparable facilities in a higher band. The incumbent would not, however, be restricted in its investment of the relocation payment. It could put those funds toward more spectrally efficient digital transmission systems or toward a fiber optic transmission system. In this manner, the natural disincentive to adopt more spectrally efficient transmission systems could be overcome by the liquidation of sunk costs represented by the past investment in old equipment. See APC Rule Making Supplement at 11-16.

[33/] Baltimore Gas & Electric Company ("BG&E") and APC are cooperatively exploring uses of PCS technology in connection with utility applications. See Seventh Progress Report at 11-12. "BG&E anticipates that PCS will provide the platform for significant utility business applications and supply benefits which will enhance rather than encumber utility operations." Letter from G.A. Dieter, Supervisor, Planning & Development Unit, Telecommunications Department, BG&E, to Albert Grimes, President, APC, April 9, 1992 (filed with Seventh Progress Report).

[34/] APC also is particularly sensitive to the needs of incumbent users because The Washington Post Company was required to relocate its 12 GHz microwave facilities to accommodate direct broadcast satellite service.

-- which has more than 80 PCS proponents as well as incumbent microwave users among its membership -- has reached a consensus that incumbent users must be protected from interference and reimbursed if they are required to relocate to accommodate PCS.[35/] Neither does the Commission have any interest in harming one group of licensees to favor another group of licensees, as the Commission's recent responses to Senators Hollings, Johnston and Burns demonstrate.[36/] PCS only can be introduced effectively if its inauguration protects the legitimate interests of incumbent users, and the approach proposed here provides such protection.[37/]

[35/] In fact, Telocator's membership includes cellular and paging licensees that are incumbent microwave licensees in the 2.11-2.15 and 2.16-2.2 GHz bands, and these incumbent licensees have sufficient faith in the Commission's ability to protect the interests of incumbent microwave users that they are willing to support the introduction of new technologies in these bands. See Comments of Telocator (being filed today).

[36/] See Letter from Commission to Sen. Ernest F. Hollings (April 20, 1992) (en banc); Letter from Alfred C. Sikes to Sen. J. Bennett Johnston, Jr. (May 26, 1992); Letter from Alfred C. Sikes to Sen. Conrad Burns (May 29, 1992).

[37/] The sensitivity of the Commission's approach in this docket should be contrasted with the draconian approach adopted throughout the rest of the world. In Hong Kong, Singapore and other nations of the Far East, incumbents are simply being ordered to vacate the 2 GHz band by a date certain, as early as 1994, at their own cost. In the European Community, incumbent users already have been made secondary to PCS and must vacate the band at their own cost if their frequencies are demanded by a PCS licensee.

III. OTHER ISSUES

A. Government-Administered Spectrum at 1.71-1.85 GHz May Be An Appropriate Relocation Ground For Some 2 GHz Incumbents.

APC supports the Commission's initiation of discussions with the National Telecommunications and Information Administration ("NTIA") exploring shared use of the 1.71-1.85 GHz band for federal and private fixed microwave users.[38/] Accordingly, APC was encouraged by the testimony of Assistant Secretary of Commerce Thomas Sugrue at the June 3, 1992 Senate Communications Subcommittee hearing that NTIA may be able to accommodate some displaced 2 GHz fixed licensees that could not, for technical reasons, relocate to bands above 3 GHz. APC also was encouraged to learn that the process by which NTIA is polling federal agencies using the 2 GHz band may be complete within 60 days.

APC opposes the consideration of spectrum in the 1.71-1.85 GHz band for the introduction of PCS. Recent legislative estimates of when government spectrum could be freed range to as much as three years.[39/] If the spectrum reallocation could be delayed for as long as three years, the United States will have lost the opportunity to lead the world in this important new technology. Such an allocation for PCS

[38/] See Letter from the Commission to Hon. Ernest F. Hollings, April 20, 1992 (en banc).

[39/] See F.C.C. Radio Plan Draws Opposition, New York Times, June 4, 1992, at D-7.

would, in addition, be out of step with other world allocations for PCS, as discussed above.

B. Tax Certificates May Be Appropriately Issued To Incumbents That Vacate the 2 GHz Band On Request of a PCS Licensee.

APC generally believes that any payment by a PCS licensee to an incumbent microwave user in reimbursement for the purchase of alternative transmission facilities in exchange for vacating current facilities would be a "like kind exchange" under the Internal Revenue Code and thus would not constitute a taxable event to the incumbent that receives such a payment. See 26 U.S.C. § 1031. To the extent, however, that incumbent fixed microwave users do realize a gain on the "sale or exchange" of property when surrendering 2 GHz licenses, APC supports the use of FCC-issued tax certificates to enable those users to defer taxes on the gain.

Section 1071 of the Internal Revenue Code permits a licensee to treat the sale or exchange of property as an involuntary conversion, on which the gain is not recognized, if the Commission certifies that the sale or exchange is "necessary or appropriate to effectuate a change in policy of, or the adoption of a new policy by, the Commission with respect to the ownership and control of radio broadcasting stations." 26 U.S.C. § 1071. The surrender of a license by a fixed microwave user pursuant to a Commission rule in this proceeding could, consistent with Commission precedent, be

considered a "sale or exchange of property."[40/] This sale or exchange would be "necessary or appropriate" to effectuate a Commission policy -- redevelopment of the spectrum and encouragement of innovation in using new telecommunications technologies.

Although the statute technically requires the Commission policy to relate to the ownership and control of "radio broadcasting stations," the Commission has broadly construed this requirement. In Telocator Network of America, 58 R.R.2d 1443 (1985), recon. dismissed, 1 F.C.C. Rcd. 509 (1986), the Commission held that the statute did not bar tax certificates from being issued to cover the transfer or sale of nonwireline cellular partnership interests. The Commission recognized that while a strict literal construction of the statutory language did not include cellular radio facilities under the definition of "radio broadcasting station," the legislative history and intent of Section 1071, "existing Commission precedent," the "radical transformation of the telecommunications marketplace since the original adoption of the statutory language," and "substantial policy considerations" compelled an expansive construction of the statute. Id. at 1447. Of course, the Internal Revenue Service makes the ultimate determination of whether the

---

[40/] See Review of the Technical Assignment Criteria for the AM Broadcast Service, 6 F.C.C. Rcd. 6273, 6325 (1991) (surrender of AM licenses for cancellation as part of the Commission's policy of reducing broadcast interference was a "sale or exchange of property").